FIBER AND PROCESSING TESTS
SURVEY OF LEADING COTTON VARIETIES

CROP OF 1992

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INTRODUCTION

This report contains information on the fiber properties and spinning performance of cotton samples representing leading varieties commercially grown in the United States. The results of fiber and spinning tests on these samples provide data for studies of the relationships between fiber properties, processing performance and product quality, in reference to specific cotton varieties.

SAMPLING PROCEDURES

For this survey, a total of twenty-four upland and two American Pima bales representing leading cotton varieties were purchased. In each case, the owner certified that the bale was produced from a specific variety.

One upland variety was selected from the Southeastern Area of the United States, four varieties from the South Central Area, four from the Southwestern Area and three from the Western Area. In addition, one American Pima variety was selected from the Western Area. Two bales were obtained for each of the thirteen selected varieties.

Several sets of samples were taken from each bale for various fiber tests. Each set was composed of five samples taken at random across the "fanhead" of the bale. This means that each fiber statistic in this report, except for classer's grade, is the average of five readings. The classer's grade is based on a classer's sample of the bale and was assigned at the classing office.

A minimum of 150 pounds of cotton from each bale was processed for each spinning test.

PROCESSING

The 26 bales of cotton collected for this study were processed on modern textile processing equipment. The cotton was opened, blended and cleaned on Truetzchler equipment and carded on a Truetzchler Card at 70 pounds per hour. Drawing sliver was produced on a Reiter Breaker Drawing Frame (3 over 3) and a Saco Lowell Finisher Drawing Frame (3 over 4). Roving was produced on a Saco Lowell Long Draft Roving Frame (10 x 5, 1-Apron Type), and ring spun yarn was produced on a Saco Lowell Long Draft Spinning Frame (2-Apron Type). Rotor spun yarn was produced on a Schlafhorst Autocoro Spinning Frame.

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NOTE: Trade names are used solely to provide specific information. Mention of a trade name does not constitute a warranty or an endorsement of the product by the U.S. Department of Agriculture to the exclusion of other products not mentioned.

ACKNOWLEDGEMENT: Appreciation is expressed to C. K. Bragg and personnel of the Cotton Quality Research Station, ARS, U.S. Dept. of Agriculture, Clemson, SC for processing the cotton into yarn.

Fiber and Processing Tests of Leading Cotton Varieties - 1992 Cotton Crop - Fiber Properties.

	DELTAPINE 50				DELTAPINE ACALA 90			
	SOUTH CENTRAL		SOUTHWEST		SOUTHEAST		SOUTHWEST	
	Mississippi	Tennessee	Texas		South Carolina	Georgia	Texas	
			(Corpus Area)	(Harlingen Area)			(Abilene Area)	(Waco Area)
CLASSIFICATION								
Classer's Grade (Code)	31	41	31	31	41	31	31	31
HVI Staple (Code)	35	34	33	35	35	35	33	34
HVI - MCI								
UHM (in)	1.10	1.06	1.03	1.10	1.10	1.10	1.04	1.06
Uniformity Index (%)	81.4	81.6	80.6	83.2	83.0	82.0	80.6	81.4
Strength (g/tex)	27.4	25.4	25.4	27.9	31.6	27.3	26.3	29.6
Elongation (%)	7.9	8.6	6.4	6.5	6.8	6.2	6.7	5.5
Micronaire (rdg)	3.8	4.3	4.3	4.7	4.3	4.3	3.9	4.3
Trash (% area)	0.26	0.46	0.08	0.40	0.20	0.20	0.10	0.16
Color Rd (%)	78.0	74.0	74.6	72.4	73.2	73.8	74.2	74.4
Color +b (units)	9.0	8.5	10.6	9.4	8.5	8.7	8.9	8.9
STELOMETER								
1/8" - Gage Strength (g/tex)*	23.3	20.8	23.6	23.3	25.6	25.4	24.7	27.4
Elongation (%)	7.0	7.8	6.0	6.0	6.0	6.0	6.2	5.5
SUTER-WEBB LENGTH ARRAY								
UQL (in)	1.18	1.16	1.13	1.19	1.21	1.18	1.12	1.15
Mean Length (in)	0.92	0.94	0.90	0.98	0.97	0.94	0.88	0.91
CV (%)	36.4	30.8	33.7	29.0	32.5	33.4	35.7	32.6
Short Fiber Content (%)	14.1	10.3	13.2	8.9	10.2	11.8	14.5	11.8
IIC/SHIRLEY FMT								
Fineness (mtex)	165.4	197.2	178.2	201.6	175.8	189.6	156.6	172.2
Maturity Ratio	0.866	0.848	0.938	0.972	0.944	0.899	0.927	0.959
S. A. NON-LINT CONTENT								
Visible Waste (%)	0.9	1.5	1.1	1.5	1.2	1.6	0.9	1.0
Total Waste (%)	2.2	2.4	2.3	2.3	2.4	2.4	1.7	1.7
NEPS OF RAW COTTON								
AFIS-N (neps/gram)	424	308	430	313	331	342	457	384
Raw Stock Neps (neps/100 sq. in.)	33	17	23	21	19	18	24	26
SUGAR CONTENT (%)	0.15	0.14	0.49	0.65	0.18	0.21	0.56	0.29

*Stelometer results adjusted to Pressley level.

Fiber and Processing Tests of Leading Cotton Varieties - 1992 Cotton Crop - Yarn Properties for Carded, **ROTOR SPUN YARN.**

	DELTAPINE 50											
	SOUTH CENTRAL						SOUTH WEST					
	Mississippi			Tennessee			Texas					
							(Corpus Area)			(Harlingen Area)		
	10s	22s	30s	10s	22s	30s	10s	22s	30s	10s	22s	30s
OPENING & CARDING WASTE (%)	4.12	4.12	4.12	5.40	5.40	5.40	5.38	5.38	5.38	5.25	5.25	5.25
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	9.9	21.6	29.5	9.8	21.3	29.0	9.7	21.3	29.1	9.9	21.4	29.0
CV% of Yarn Number	1.0	0.8	1.0	0.7	0.8	1.1	0.8	0.6	1.1	0.5	0.7	0.7
Count-Strength-Product	2266	1914	1701	2041	1684	1456	2181	1768	1553	2291	1884	1623
CV% of CSP	2.5	2.5	2.8	4.6	2.3	3.6	3.3	2.3	4.2	3.7	2.7	3.2
Elongation (%)	8.3	7.5	6.7	8.8	7.5	6.5	7.5	6.5	5.8	7.6	6.8	5.6
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	128	113	110	118	113	93	128	105	99	141	118	103
CV% of Tenacity	7.0	9.2	9.0	8.2	9.7	13.0	7.5	10.2	10.3	7.2	9.1	13.1
Force (N)	7.55	3.04	2.15	6.98	3.04	1.82	7.53	2.82	1.95	8.31	3.17	2.03
Elongation (%)	7.85	7.28	7.07	8.56	7.63	6.94	7.40	6.05	5.99	8.87	6.96	5.66
CV% of Elongation	7.7	9.3	9.6	8.9	10.4	10.3	10.4	8.7	11.3	9.8	8.6	11.7
Specific Work to Rupture (cm*N)	2.36	0.91	0.62	2.41	0.93	0.54	2.10	0.74	0.49	2.74	0.90	0.50
CV% of Specific Work to Rupture	12.4	15.1	14.3	14.0	14.8	18.9	11.3	14.6	16.5	12.2	12.8	19.2
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	11.7	13.6	14.6	12.5	14.4	15.7	12.0	14.0	15.1	11.9	14.5	16.0
Thick Places/1,000 yd	9	22	40	16	55	105	22	33	69	11	54	137
Thin Places/1,000 yd	0	7	28	1	27	83	0	7	39	0	24	93
Neps/1,000 yd	3	3	5	3	8	31	5	16	9	5	4	24
YARN APPEARANCE INDEX	110	110	110	100	110	110	100	110	100	90	120	100

Fiber and Processing Tests of Leading Cotton Varieties - 1992 Cotton Crop - Yarn Properties for Carded, **RING SPUN YARN.**

	DELTAPINE 50											
	SOUTH CENTRAL						SOUTH WEST					
	Mississippi			Tennessee			Texas					
							(Corpus Area)			(Harlingen Area)		
	22s	36s	50s	22s	36s	50s	22s	36s	50s	22s	36s	50s
OPENING & CARDING WASTE (%)	4.12	4.12	4.12	5.40	5.40	5.40	5.38	5.38	5.38	5.25	5.25	5.25
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	21.7	35.5	50.2	21.7	34.6	50.0	21.3	35.1	48.6	21.5	34.5	49.0
CV% of Yarn Number	1.3	1.0	1.3	1.1	1.0	1.5	1.2	1.6	1.7	1.1	1.5	1.3
Count-Strength-Product	2276	2094	1859	2075	1900	1777	2091	1896	1695	2461	2199	1997
CV% of CSP	5.2	5.4	4.1	3.5	4.9	5.8	4.7	3.9	4.7	6.4	3.7	4.9
Elongation (%)	7.5	5.5	6.0	7.5	6.5	6.2	6.0	5.4	5.1	6.5	5.6	5.5
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	143	129	118	130	124	107	139	126	116	150	142	133
CV% of Tenacity	12.1	11.2	16.0	9.3	12.4	15.2	14.9	16.0	21.5	11.3	12.6	15.8
Force (N)	3.83	2.11	1.39	3.48	2.03	1.26	3.74	2.07	1.38	4.04	2.32	1.57
Elongation (%)	7.55	6.09	5.94	7.95	6.69	6.39	6.23	5.80	5.06	6.80	6.05	6.03
CV% of Elongation	12.1	12.8	17.4	10.2	10.9	17.7	13.9	10.4	11.9	10.2	11.5	9.9
Specific Work to Rupture (cm*N)	1.13	0.55	0.35	1.11	0.58	0.35	0.92	0.50	0.31	1.07	0.58	0.40
CV% of Specific Work to Rupture	17.3	17.1	24.4	14.2	18.6	23.0	18.3	20.7	28.8	15.8	17.4	20.6
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	19.7	24.2	26.3	18.6	22.9	25.4	21.3	24.8	28.0	19.4	22.5	25.5
Thick Places/1,000 yd	1090	2153	2786	800	1772	2485	1457	2427	3338	965	1771	2568
Thin Places/1,000 yd	160	788	1107	96	589	1164	259	798	1740	115	433	939
Neps/1,000 yd	92	690	1117	141	561	907	338	954	1446	266	949	1476
YARN APPEARANCE INDEX	110	90	70	110	90	80	100	100	60	90	90	70

Fiber and Processing Tests of Leading Cotton Varieties - 1992 Cotton Crop - Yarn Properties for Carded, **ROTOR SPUN YARN.**

	DELTAPINE ACALA 90											
	SOUTHEAST						SOUTHWEST					
	South Carolina			Georgia			Texas					
							(Abilene Area)			(Waco Area)		
	10s	22s	30s	10s	22s	30s	10s	22s	30s	10s	22s	30s
OPENING & CARDING WASTE (%)	4.38	4.38	4.38	4.96	4.96	4.96	4.07	4.07	4.07	4.32	4.32	4.32
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	10.0	21.6	29.0	9.9	21.3	29.3	9.9	21.5	28.6	9.9	21.5	29.2
CV% of Yarn Number	0.9	0.6	0.7	0.8	0.8	1.2	0.8	1.0	1.2	0.7	0.7	1.3
Count-Strength-Product	2351	1918	1680	2253	1920	1662	2380	2044	1797	2553	2149	1889
CV% of CSP	3.2	3.0	4.7	2.9	3.5	5.2	3.2	2.1	4.2	3.4	2.7	3.4
Elongation (%)	7.1	6.5	5.5	7.5	6.5	5.5	7.9	7.4	6.3	7.4	6.9	6.8
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	125	117	111	133	112	107	135	124	119	147	128	119
CV% of Tenacity	7.3	9.0	12.0	7.8	9.3	13.5	8.2	10.2	11.9	8.5	9.5	10.0
Force (N)	7.39	3.15	2.18	7.87	3.01	2.10	7.99	3.34	2.34	8.67	3.42	2.34
Elongation (%)	7.54	6.02	5.76	7.65	5.98	5.79	7.22	7.26	6.36	7.14	6.35	5.86
CV% of Elongation	10.0	8.6	10.1	8.8	9.8	10.2	8.1	7.5	8.7	9.4	7.5	10.1
Specific Work to Rupture (cm*N)	2.21	0.79	0.54	2.27	0.77	0.52	2.22	0.97	0.61	2.25	0.87	0.56
CV% of Specific Work to Rupture	13.9	14.5	16.5	13.0	14.6	17.9	11.0	13.4	16.5	13.1	12.3	14.1
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	11.8	13.8	15.2	12.0	13.7	15.2	11.5	13.6	14.4	11.7	12.6	14.9
Thick Places/1,000 yd	9	37	67	9	19	75	19	30	38	12	19	66
Thin Places/1,000 yd	0	11	51	1	5	52	2	8	16	0	4	31
Neps/1,000 yd	2	4	9	0	4	10	13	1	3	5	1	4
YARN APPEARANCE INDEX	110	110	120	110	110	100	110	110	110	110	120	120

Fiber and Processing Tests of Leading Cotton Varieties - 1992 Cotton Crop - Yarn Properties for Carded, **RING SPUN YARN.**

	DELTAPINE ACALA 90											
	SOUTHEAST						SOUTHWEST					
	South Carolina			Georgia			Texas					
							(Abilene Area)			(Waco Area)		
	22s	36s	50s	22s	36s	50s	22s	36s	50s	22s	36s	50s
OPENING & CARDING WASTE (%)	4.38	4.38	4.38	4.96	4.96	4.96	4.07	4.07	4.07	4.32	4.32	4.32
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	21.6	36.5	49.5	21.7	36.6	49.7	21.8	35.3	49.5	21.6	35.5	48.1
CV% of Yarn Number	1.0	1.0	1.5	0.9	1.6	1.5	1.0	1.9	1.3	0.9	1.1	1.1
Count-Strength-Product	2391	2143	1900	2360	2114	1860	2292	1955	1798	2565	2317	2054
CV% of CSP	5.1	3.9	4.2	3.2	6.3	6.2	4.3	5.0	4.7	4.0	4.2	4.8
Elongation (%)	6.4	5.2	5.1	6.5	5.0	5.0	6.0	5.0	5.0	6.0	5.1	5.0
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	146	136	122	148	128	120	150	132	115	154	142	141
CV% of Tenacity	12.6	10.9	12.0	10.6	10.7	14.5	14.7	16.2	16.8	11.7	14.2	13.3
Force (N)	3.91	2.23	1.44	3.96	2.11	1.42	4.03	2.16	1.35	4.13	2.34	1.66
Elongation (%)	6.33	5.77	5.14	6.98	4.90	5.14	6.86	6.04	5.01	6.07	5.16	5.40
CV% of Elongation	13.5	19.3	9.5	10.5	13.4	11.8	10.3	13.3	13.7	12.4	13.8	12.9
Specific Work to Rupture (cm*N)	1.01	0.55	0.32	1.07	0.46	0.32	1.05	0.54	0.30	0.97	0.51	0.37
CV% of Specific Work to Rupture	18.8	16.0	17.6	15.2	16.5	20.3	18.7	21.0	23.6	16.5	19.6	18.2
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	19.0	22.3	25.7	20.0	24.4	26.4	20.5	25.9	28.2	20.1	23.5	25.6
Thick Places/1,000 yd	907	1683	2630	1167	2263	2891	1179	2717	3375	1048	1944	2615
Thin Places/1,000 yd	82	408	953	224	845	1131	184	1269	1809	288	624	1006
Neps/1,000 yd	141	669	1043	118	731	1426	120	824	1205	86	540	836
YARN APPEARANCE INDEX	100	100	80	120	100	70	100	90	70	110	90	70

Fiber and Processing Tests of Leading Cotton Varieties - 1992 Cotton Crop - Fiber Properties.

	DELTAPINE 20		DELTAPINE 51		DELTAPINE 5415		PAYMASTER HS-26	
	SOUTH CENTRAL		SOUTH CENTRAL		SOUTH CENTRAL		SOUTHWEST	
							Texas	
	Mississippi	Tennessee	Mississippi	Louisiana	Mississippi	Louisiana	(Lamesa Area)	(Lubbock Area)
CLASSIFICATION								
Classer's Grade (Code)	31	31	31	31	31	31	31	31
HVI Staple (Code)	36	35	36	37	34	35	33	34
HVI - MCI								
UHM (in)	1.11	1.09	1.11	1.17	1.06	1.10	1.03	1.07
Uniformity Index (%)	81.8	81.4	82.6	83.4	80.4	82.6	81.4	82.6
Strength (g/tex)	26.6	25.5	29.0	26.7	26.9	27.7	28.0	30.0
Elongation (%)	7.8	8.5	7.7	7.4	7.7	7.4	9.1	8.9
Micronaire (rdg)	3.4	3.9	4.2	4.4	3.7	4.7	3.6	3.9
Trash (% area)	0.30	0.32	0.58	0.44	0.10	0.36	0.24	0.10
Color Rd (%)	78.6	74.8	77.0	76.2	77.2	76.6	74.4	75.4
Color +b (units)	8.5	8.6	8.9	7.6	8.7	7.5	8.9	8.5
STELOMETER								
1/8" - Gage Strength (g/tex)*	23.0	23.0	23.9	23.7	23.9	23.3	25.7	26.3
Elongation (%)	7.1	7.0	7.0	7.2	6.8	6.7	7.2	7.7
SUTER-WEBB LENGTH ARRAY								
UQL (in)	1.27	1.20	1.23	1.26	1.15	1.20	1.13	1.17
Mean Length (in)	1.02	0.97	1.00	1.03	0.89	0.97	0.91	0.96
CV (%)	32.9	31.7	31.5	30.7	36.3	32.5	31.4	28.8
Short Fiber Content (%)	10.3	10.3	10.2	9.6	15.3	11.4	10.6	8.8
IIC/SHIRLEY FMT								
Fineness (mtex)	156.4	170.0	177.2	187.4	160.4	186.2	171.0	179.0
Maturity Ratio	0.758	0.843	0.901	0.923	0.880	0.949	0.790	0.829
S. A. NON-LINT CONTENT								
Visible Waste (%)	1.8	1.1	2.5	1.2	0.6	1.3	2.0	2.3
Total Waste (%)	3.2	1.9	3.6	2.5	2.2	2.2	3.0	3.8
NEPS OF RAW COTTON								
AFIS-N (neps/gram)	458	376	358	292	505	277	604	418
Raw Stock Neps (neps/100 sq. in.)	33	16	28	16	36	15	36	23
SUGAR CONTENT (%)	0.27	0.43	0.21	0.19	0.18	0.20	0.80	0.82

*Stelometer results adjusted to Pressley level.

Fiber and Processing Tests of Leading Cotton Varieties - 1992 Cotton Crop - Yarn Properties for Carded, **ROTOR SPUN YARN.**

	DELTAPINE 20						DELTAPINE 51					
	SOUTH CENTRAL						SOUTH CENTRAL					
	Mississippi			Tennessee			Mississippi			Louisiana		
	10s	22s	30s	10s	22s	30s	10s	22s	30s	10s	22s	30s
OPENING & CARDING WASTE (%)	5.38	5.38	5.38	4.59	4.59	4.59	5.93	5.93	5.93	4.27	4.27	4.27
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	9.9	21.3	29.3	9.7	21.3	29.4	10.0	21.7	29.3	10.0	21.7	28.9
CV% of Yarn Number	0.9	0.5	0.8	0.8	0.8	0.8	0.6	0.7	0.6	1.1	0.5	1.2
Count-Strength-Product	2280	1936	1739	2177	1866	1651	2268	1953	1630	2228	1902	1684
CV% of CSP	3.0	2.4	2.5	3.8	2.4	3.1	2.7	2.7	3.1	3.4	2.8	2.8
Elongation (%)	8.6	7.8	7.0	8.5	7.5	6.8	8.1	6.9	6.0	7.9	7.1	6.5
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	131	120	111	129	106	102	127	111	108	128	116	109
CV% of Tenacity	7.6	9.7	8.4	7.1	8.2	11.5	6.9	8.9	11.3	6.6	8.8	13.1
Force (N)	7.75	3.22	2.19	7.63	2.85	2.02	7.48	2.97	2.13	7.56	3.10	2.14
Elongation (%)	8.65	7.61	7.19	8.75	7.47	6.86	6.72	6.89	7.07	8.74	7.63	6.42
CV% of Elongation	7.6	8.9	9.7	8.3	12.5	11.3	7.1	9.9	10.8	8.0	8.2	12.9
Specific Work to Rupture (cm*N)	2.66	1.00	0.65	2.60	0.88	0.58	2.03	0.84	0.62	2.49	0.97	0.59
CV% of Specific Work to Rupture	12.8	15.1	13.9	12.2	14.6	17.8	11.6	14.2	17.3	10.8	14.2	18.6
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	11.8	13.6	14.3	12.0	13.6	14.8	12.2	13.9	15.3	12.9	13.8	15.2
Thick Places/1,000 yd	9	36	47	15	33	59	20	44	103	9	35	95
Thin Places/1,000 yd	0	8	27	0	5	38	0	20	72	0	12	56
Neps/1,000 yd	5	12	7	8	4	7	7	13	27	0	6	13
YARN APPEARANCE INDEX	100	110	110	100	120	120	110	110	110	110	110	110

Fiber and Processing Tests of Leading Cotton Varieties - 1992 Cotton Crop - Yarn Properties for Carded, **RING SPUN YARN.**

	DELTAPINE 20						DELTAPINE 51					
	SOUTH CENTRAL						SOUTH CENTRAL					
	Mississippi			Tennessee			Mississippi			Louisiana		
	22s	36s	50s	22s	36s	50s	22s	36s	50s	22s	36s	50s
OPENING & CARDING WASTE (%)	5.38	5.38	5.38	4.59	4.59	4.59	5.93	5.93	5.93	4.27	4.27	4.27
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	21.8	35.7	49.2	21.4	34.8	49.6	21.7	35.5	49.2	21.8	35.9	49.0
CV% of Yarn Number	2.4	1.4	1.4	1.5	1.4	1.6	2.1	0.9	1.7	2.1	1.5	2.0
Count-Strength-Product	2276	2070	1911	2187	1966	1788	2366	2254	1978	2341	2244	1951
CV% of CSP	4.2	5.1	3.9	3.9	4.0	4.3	4.3	4.7	5.4	4.2	5.4	5.3
Elongation (%)	7.5	6.5	5.9	7.5	6.6	5.6	7.0	6.5	6.0	7.1	6.3	6.0
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	142	136	123	139	135	118	146	132	124	141	134	130
CV% of Tenacity	11.5	12.4	17.6	11.4	11.4	12.7	11.7	14.0	15.0	10.7	12.8	14.0
Force (N)	3.81	2.23	1.45	3.74	2.22	1.40	3.92	2.17	1.47	3.78	2.19	1.53
Elongation (%)	7.85	6.76	5.92	8.11	7.27	6.49	7.13	6.93	6.08	7.95	7.03	6.57
CV% of Elongation	12.5	12.4	20.8	10.9	11.2	10.5	12.5	10.5	12.0	10.4	12.1	10.2
Specific Work to Rupture (cm*N)	1.17	0.63	0.38	1.17	0.65	0.39	1.12	0.60	0.38	1.16	0.62	0.42
CV% of Specific Work to Rupture	17.6	18.4	24.9	16.8	17.6	18.2	17.1	20.2	21.4	15.7	18.6	20.0
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	19.2	22.8	25.4	19.1	23.4	26.0	19.0	23.1	25.6	18.0	21.5	24.6
Thick Places/1,000 yd	956	1911	2647	898	1992	2705	988	1935	2666	683	1503	2375
Thin Places/1,000 yd	112	405	878	142	734	1196	112	411	900	52	252	790
Neps/1,000 yd	165	751	1189	117	540	914	250	897	1425	108	462	969
YARN APPEARANCE INDEX	110	90	70	110	90	80	100	80	70	110	100	80

Fiber and Processing Tests of Leading Cotton Varieties - 1992 Cotton Crop - Yarn Properties for Carded, **ROTOR SPUN YARN.**

	DELTAPINE 5415						PAYMASTER HS-26					
	SOUTH CENTRAL						SOUTHWEST					
	Mississippi			Louisiana			Texas					
							(Lamesa Area)			(Lubbock Area)		
	10s	22s	30s	10s	22s	30s	10s	22s	30s	10s	22s	30s
OPENING & CARDING WASTE (%)	4.88	4.88	4.88	4.17	4.17	4.17	4.83	4.83	4.83	5.34	5.34	5.34
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	10.0	21.7	28.8	9.8	21.2	28.9	10.0	21.7	29.3	9.8	21.4	29.2
CV% of Yarn Number	0.7	1.0	0.8	0.8	0.7	1.0	0.8	0.8	0.7	0.8	0.6	0.9
Count-Strength-Product	2270	1831	1660	2190	1867	1593	2265	1916	1683	2437	2045	1820
CV% of CSP	2.4	3.2	2.4	2.9	3.4	4.1	3.7	2.8	3.3	3.0	3.2	2.7
Elongation (%)	7.9	6.7	6.8	7.7	7.0	6.2	8.6	7.7	7.3	8.8	7.7	7.4
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	130	111	108	132	119	120	128	118	115	144	128	119
CV% of Tenacity	8.0	10.6	10.3	8.3	9.4	8.9	7.2	9.0	10.9	7.6	8.6	10.8
Force (N)	7.66	2.97	2.12	7.79	3.20	2.35	7.53	3.17	3.09	8.48	3.44	2.34
Elongation (%)	7.69	6.39	6.02	8.67	6.97	7.07	7.98	8.08	6.86	9.06	8.53	7.14
CV% of Elongation	8.4	11.0	9.0	8.8	9.7	10.9	8.2	7.6	11.6	6.9	9.0	8.8
Specific Work to Rupture (cm*N)	2.34	0.80	0.55	2.58	0.89	0.67	2.32	1.02	0.83	2.85	1.12	0.67
CV% of Specific Work to Rupture	13.7	16.7	14.6	13.4	13.6	15.0	11.8	13.4	15.6	12.2	13.5	16.0
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	13.0	13.6	14.8	13.2	14.3	15.5	12.0	13.8	14.9	11.8	13.8	15.1
Thick Places/1,000 yd	15	21	65	16	47	101	12	34	66	7	30	72
Thin Places/1,000 yd	0	6	21	1	11	60	0	16	38	0	12	30
Neps/1,000 yd	1	3	7	0	5	16	1	5	9	0	3	9
YARN APPEARANCE INDEX	90	90	100	110	110	110	100	110	100	110	100	100

Fiber and Processing Tests of Leading Cotton Varieties - 1992 Cotton Crop - Yarn Properties for Carded, **RING SPUN YARN.**

	DELTAPINE 5415						PAYMASTER HS-26					
	SOUTH CENTRAL						SOUTH WEST					
	Mississippi			Louisiana			Texas					
							(Lamesa Area)			(Lubbock Area)		
	22s	36s	50s	22s	36s	50s	22s	36s	50s	22s	36s	50s
OPENING & CARDING WASTE (%)	4.88	4.88	4.88	4.17	4.17	4.17	4.83	4.83	4.83	5.34	5.34	5.34
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	21.6	35.1	50.1	21.6	36.2	50.4	21.7	35.6	50.3	21.9	36.1	51.0
CV% of Yarn Number	0.9	1.5	1.6	1.0	1.5	1.6	1.0	1.4	1.3	1.5	1.1	1.8
Count-Strength-Product	2169	1886	1599	2225	2049	1786	2393	2177	1926	2619	2254	2107
CV% of CSP	5.3	5.5	5.9	4.2	5.7	5.5	4.0	5.5	4.2	2.9	5.0	3.8
Elongation (%)	6.5	5.5	5.0	6.9	6.0	5.3	7.5	6.7	6.0	7.6	6.7	6.1
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	138	132	115	141	130	118	147	134	125	161	143	131
CV% of Tenacity	10.9	14.7	18.8	11.2	12.6	14.4	13.1	14.9	13.9	10.5	10.9	14.8
Force (N)	3.72	2.17	1.36	3.79	2.13	1.40	3.94	2.20	1.48	4.32	2.35	1.55
Elongation (%)	7.11	5.82	5.79	7.82	6.27	5.94	8.04	6.87	6.60	8.03	7.00	6.59
CV% of Elongation	11.3	12.6	11.5	9.7	11.3	11.5	13.0	10.0	10.3	8.7	10.4	11.8
Specific Work to Rupture (cm*N)	1.04	0.54	0.34	1.14	0.56	0.35	1.21	0.62	0.40	1.32	0.66	0.42
CV% of Specific Work to Rupture	14.9	21.4	23.8	14.9	17.6	18.9	19.0	20.1	18.9	14.3	15.8	20.5
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	23.0	28.1	31.0	19.7	23.0	26.5	18.6	22.5	25.4	16.8	20.1	22.8
Thick Places/1,000 yd	2021	3479	4202	1022	1974	2898	764	1737	2490	419	1061	1802
Thin Places/1,000 yd	473	1770	2544	158	453	1230	91	512	1022	25	207	568
Neps/1,000 yd	215	1306	2275	134	410	1166	98	318	1005	101	181	683
YARN APPEARANCE INDEX	100	80	70	100	100	80	110	90	70	100	90	80

Fiber and Processing Tests of Leading Cotton Varieties - 1992 Cotton Crop - Fiber Properties.

	PAYMASTER 200		ACALA SJ-2		GERMAIN'S GC-510		ACALA MAXXA	
	SOUTHWEST		FAR WEST		FAR WEST		FAR WEST	
	Texas		California		California		California	
	(Lamesa Area)	(Lubbock Area)	San Joaquin Valley		San Joaquin Valley		San Joaquin Valley	
CLASSIFICATION								
Classer's Grade (Code)	31	31	31	31	31	31	31	31
HVI Staple (Code)	34	34	37	37	37	36	37	36
HVI - MCI								
UHM (in)	1.06	1.07	1.16	1.14	1.15	1.11	1.15	1.11
Uniformity Index (%)	80.4	80.8	83.6	83.8	83.6	83.4	83.4	82.2
Strength (g/tex)	26.5	26.9	31.2	31.2	30.9	28.9	33.0	29.6
Elongation (%)	7.9	7.7	5.2	5.7	5.6	5.8	5.2	5.2
Micronaire (rdg)	3.2	3.2	4.0	4.3	4.4	4.1	4.0	4.1
Trash (% area)	0.18	0.16	0.24	0.30	0.58	0.36	0.26	0.06
Color Rd (%)	73.2	79.6	73.8	73.6	72.4	73.8	75.0	75.2
Color +b (units)	9.4	10.2	9.1	9.2	9.5	8.9	8.5	8.6
STELOMETER								
1/8" - Gage Strength (g/tex)*	26.8	26.1	28.4	28.5	27.3	27.5	29.1	26.6
Elongation (%)	6.9	7.3	5.1	5.7	5.9	5.7	5.4	5.5
SUTER-WEBB LENGTH ARRAY								
UQL (in)	1.16	1.17	1.25	1.27	1.30	1.21	1.28	1.21
Mean Length (in)	0.92	0.93	1.01	1.05	1.09	1.00	1.08	0.980
CV (%)	34.1	33.0	30.8	29.7	27.8	29.1	27.2	31.9
Short Fiber Content (%)	12.7	11.0	9.5	8.5	6.5	8.5	6.8	10.5
IIC/SHIRLEY FMT								
Fineness (mtex)	131.8	140.2	180.0	184.6	179.2	162.2	175.0	177.0
Maturity Ratio	0.711	0.770	0.890	0.941	0.960	0.978	0.901	0.934
S. A. NON-LINT CONTENT								
Visible Waste (%)	1.4	1.8	1.5	2.2	2.7	1.7	1.6	1.0
Total Waste (%)	2.5	3.4	2.4	3.1	3.5	2.7	2.3	2.1
NEPS OF RAW COTTON								
AFIS-N (neps/gram)	667	593	344	306	310	394	249	353
Raw Stock Neps (neps/100 sq. in.)	41	39	27	23	21	28	17	22
SUGAR CONTENT (%)	0.64	0.67	0.42	0.40	0.42	0.41	0.36	0.38

*Stelometer results adjusted to Pressley level.

Fiber and Processing Tests of Leading Cotton Varieties - 1992 Cotton Crop - Yarn Properties for Carded, **ROTOR SPUN YARN.**

	PAYMASTER 200						ACALA SJ-2					
	SOUTHWEST						FAR WEST					
	Texas						California					
	(Lamesa Area)			(Lubbock Area)			San Joaquin Valley					
	10s	22s	30s	10s	22s	30s	10s	22s	30s	10s	22s	30s
OPENING & CARDING WASTE (%)	6.33	6.33	6.33	5.06	5.06	5.06	5.39	5.39	5.39	5.65	5.65	5.65
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	9.9	21.4	29.1	9.9	21.5	28.7	10.0	21.6	29.5	10.0	21.7	29.3
CV% of Yarn Number	1.5	0.7	1.2	0.9	0.8	1.6	1.4	1.0	1.7	0.7	0.8	0.7
Count-Strength-Product	2501	2143	1884	2439	2059	1906	2641	2198	1954	2587	2123	1849
CV% of CSP	3.6	3.2	3.6	3.4	2.9	2.9	3.2	3.2	4.7	3.2	3.4	3.7
Elongation (%)	8.8	8.0	7.0	8.5	8.1	7.5	7.2	6.5	5.7	7.3	6.5	5.6
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	146	133	106	138	124	121	152	133	124	146	129	118
CV% of Tenacity	7.4	10.0	9.8	6.3	8.8	9.8	7.5	9.1	11.3	8.9	9.4	12.5
Force (N)	8.65	3.58	2.10	8.16	3.34	2.38	8.96	3.56	2.44	8.60	3.46	2.32
Elongation (%)	8.83	8.53	6.28	8.44	7.99	7.61	7.45	6.41	6.03	6.80	6.62	5.84
CV% of Elongation	8.7	8.5	11.0	7.4	7.0	8.1	7.5	10.7	11.4	7.2	9.7	10.8
Specific Work to Rupture (cm*N)	2.87	1.20	0.56	2.65	1.05	0.72	2.45	0.88	0.61	2.25	0.88	0.56
CV% of Specific Work to Rupture	12.2	15.6	15.3	10.8	13.4	14.7	11.5	13.8	16.0	12.6	13.7	18.5
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	11.6	12.8	13.7	11.3	12.9	14.0	11.6	13.6	15.0	11.8	14.0	15.4
Thick Places/1,000 yd	12	16	22	10	18	35	5	40	88	13	49	101
Thin Places/1,000 yd	0	1	5	0	4	10	0	5	50	0	14	56
Neps/1,000 yd	6	3	3	3	2	4	0	5	26	3	10	24
YARN APPEARANCE INDEX	110	100	100	120	120	110	120	120	110	110	110	110

Fiber and Processing Tests of Leading Cotton Varieties - 1992 Cotton Crop - Yarn Properties for Carded, **RING SPUN YARN.**

	PAYMASTER 200						ACALA SJ-2					
	SOUTHWEST						FAR WEST					
	Texas						California					
	(Lamesa Area)			(Lubbock Area)			San Joaquin Valley					
	22s	36s	50s	22s	36s	50s	22s	36s	50s	22s	36s	50s
OPENING & CARDING WASTE (%)	6.33	6.33	6.33	5.06	5.06	5.06	5.39	5.39	5.39	5.65	5.65	5.65
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	22.1	34.6	51.0	21.8	35.8	49.4	21.8	35.7	48.8	22.4	35.4	49.1
CV% of Yarn Number	1.5	2.7	1.6	2.1	1.0	1.8	2.6	1.2	1.6	2.4	1.1	1.7
Count-Strength-Product	2613	2345	2180	2482	2254	2148	2878	2575	2382	2931	2574	2482
CV% of CSP	4.6	5.5	5.2	3.2	4.5	6.9	4.8	3.6	3.5	4.8	4.5	4.8
Elongation (%)	7.4	6.5	5.7	7.4	6.0	6.3	6.4	5.5	5.4	6.5	5.5	5.7
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	158	158	132	157	148	135	169	155	146	170	168	152
CV% of Tenacity	9.5	12.0	15.0	11.7	12.1	13.8	14.4	15.5	17.7	15.3	19.3	15.5
Force (N)	4.24	2.59	1.56	4.21	2.43	1.60	4.54	2.54	1.72	4.56	2.76	1.80
Elongation (%)	7.35	7.01	6.48	8.25	6.76	6.61	6.40	5.47	5.70	6.59	5.95	5.71
CV% of Elongation	12.6	12.3	10.0	8.7	20.2	11.4	10.7	13.2	14.3	10.6	10.1	10.4
Specific Work to Rupture (cm*N)	1.25	0.73	0.41	1.34	0.67	0.43	1.10	0.57	0.40	1.13	0.64	0.41
CV% of Specific Work to Rupture	14.8	18.2	20.7	16.4	21.9	20.1	19.5	20.5	22.4	19.8	23.1	20.2
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	19.2	22.3	25.5	18.4	21.7	24.4	17.8	21.6	23.3	17.7	21.2	22.9
Thick Places/1,000 yd	992	1714	2606	797	1566	2330	695	1501	1976	658	1473	1926
Thin Places/1,000 yd	114	431	978	73	360	792	54	332	461	44	283	469
Neps/1,000 yd	99	249	1057	136	514	876	232	686	983	429	967	1217
YARN APPEARANCE INDEX	100	90	70	100	90	70	100	90	70	100	90	70

Fiber and Processing Tests of Leading Cotton Varieties - 1992 Cotton Crop - Yarn Properties for Combed, **RING SPUN YARN.**

	ACALA SJ-2						GERMAIN'S GC-510					
	FAR WEST						FAR WEST					
	California						California					
	San Joaquin Valley						San Joaquin Valley					
	22s	36s	50s	22s	36s	50s	22s	36s	50s	22s	36s	50s
OPENING & CARDING WASTE (%)	5.39	5.39	5.39	5.65	5.65	5.65	3.44	3.44	3.44	5.60	5.60	5.60
COMBING WASTE(%):	20.17	20.17	20.17	19.45	19.45	19.45	18.21	18.21	18.21	19.86	19.86	19.86
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	22.4	37.1	49.9	21.7	37.9	52.1	21.9	36.5	51.8	21.7	37.4	50.7
CV% of Yarn Number	4.3	1.2	2.6	1.9	1.6	1.8	2.7	2.0	2.6	1.4	2.2	1.6
Count-Strength-Product	3251	3000	2941	3237	2932	2773	3246	2934	2767	3370	2998	2989
CV% of CSP	4.0	4.5	4.5	3.9	3.9	3.7	5.7	5.5	4.0	4.2	5.0	3.4
Elongation (%)	6.0	5.3	5.0	6.6	5.5	5.5	6.4	5.6	5.4	6.2	5.4	5.6
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	183	166	160	182	166	150	190	171	155	194	176	171
CV% of Tenacity	12.2	11.6	12.7	10.4	12.0	17.1	10.3	12.3	11.6	11.6	9.7	10.5
Force (N)	4.92	2.72	1.89	4.90	2.73	1.78	5.11	2.81	1.83	5.21	2.88	2.02
Elongation (%)	6.29	5.66	5.34	6.28	5.55	5.41	6.47	5.69	5.77	6.20	5.78	5.47
CV% of Elongation	11.3	8.6	9.4	13.3	13.7	11.8	15.9	12.2	9.6	12.9	12.5	9.4
Specific Work to Rupture (cm*N)	1.19	0.62	0.42	1.19	0.63	0.40	1.26	0.66	0.43	1.24	0.67	0.45
CV% of Specific Work to Rupture	17.1	14.0	16.5	16.0	17.4	20.0	15.1	16.9	15.5	16.7	17.0	13.8
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	14.0	15.7	17.3	13.1	16.4	16.5	13.4	16.0	17.2	12.7	15.8	16.8
Thick Places/1,000 yd	96	242	415	84	330	404	78	246	443	54	244	395
Thin Places/1,000 yd	6	28	79	2	60	70	2	36	77	2	32	52
Neps/1,000 yd	33	103	183	38	197	210	40	165	241	34	150	215
YARN APPEARANCE INDEX	110	100	110	120	100	100	120	120	110	120	100	100

Fiber and Processing Tests of Leading Cotton Varieties - 1992 Cotton Crop - Yarn Properties for Carded, **ROTOR SPUN YARN.**

	GERMAIN'S GC-510						ACALA MAXXA					
	FAR WEST						FAR WEST					
	California						California					
	San Joaquin Valley						San Joaquin Valley					
	10s	22s	30s	10s	22s	30s	10s	22s	30s	10s	22s	30s
OPENING & CARDING WASTE (%)	3.44	3.44	3.44	5.60	5.60	5.60	5.03	5.03	5.03	4.80	4.80	4.80
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	10.1	21.9	29.5	9.7	21.7	29.0	9.9	21.6	29.1	9.7	21.5	29.2
CV% of Yarn Number	1.8	1.0	1.4	2.0	0.6	0.7	0.9	0.7	0.8	0.6	0.8	0.9
Count-Strength-Product	2531	2052	1814	2656	2277	2203	2866	2454	2054	2635	2325	2041
CV% of CSP	3.1	2.5	2.9	3.4	2.9	2.8	3.4	2.4	2.7	4.0	3.1	4.7
Elongation (%)	7.2	6.7	5.6	7.4	6.7	5.7	7.3	6.8	6.1	7.0	6.5	5.6
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	147	124	116	161	136	129	161	146	131	158	137	130
CV% of Tenacity	7.2	9.4	10.9	6.7	7.9	11.0	7.6	9.6	10.4	6.4	11.7	11.8
Force (N)	8.69	3.34	2.28	9.49	3.65	2.54	9.52	3.92	2.57	9.31	3.68	2.56
Elongation (%)	7.03	6.17	5.94	6.89	6.11	5.80	6.80	6.28	6.11	7.22	6.32	6.09
CV% of Elongation	7.4	8.2	9.8	6.2	8.3	8.1	8.3	7.2	8.0	7.9	10.1	7.3
Specific Work to Rupture (cm*N)	2.35	0.83	0.58	2.44	0.89	0.60	2.44	0.97	0.65	2.49	0.88	0.62
CV% of Specific Work to Rupture	11.7	14.0	15.1	9.8	10.7	14.9	11.8	12.6	13.8	10.5	16.4	15.7
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	12.2	14.5	15.7	11.2	13.5	14.6	11.4	13.5	14.8	11.7	13.5	14.4
Thick Places/1,000 yd	20	53	122	6	35	70	13	27	63	13	24	47
Thin Places/1,000 yd	0	22	91	0	4	33	0	7	36	0	6	21
Neps/1,000 yd	4	14	26	1	6	17	4	5	12	3	3	18
YARN APPEARANCE INDEX	120	110	110	110	110	110	120	120	110	110	120	110

Fiber and Processing Tests of Leading Cotton Varieties - 1992 Cotton Crop - Yarn Properties for Carded, **RING SPUN YARN.**

	GERMAIN'S GC-510						ACALA MAXXA					
	FAR WEST						FAR WEST					
	California						California					
	San Joaquin Valley						San Joaquin Valley					
	22s	36s	50s	22s	36s	50s	22s	36s	50s	22s	36s	50s
OPENING & CARDING WASTE (%)	3.44	3.44	3.44	5.60	5.60	5.60	5.03	5.03	5.03	4.80	4.80	4.80
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	22.4	35.5	48.8	22.4	35.0	49.1	21.5	36.5	49.7	22.3	35.4	49.0
CV% of Yarn Number	2.4	1.2	1.3	2.6	1.3	1.4	1.7	2.6	1.3	1.2	1.3	1.3
Count-Strength-Product	2925	2615	2434	2976	2778	2644	3311	2965	2873	2894	2542	2409
CV% of CSP	4.9	4.5	3.8	5.7	5.2	4.4	4.5	3.6	3.4	4.9	4.2	5.0
Elongation (%)	6.5	5.6	5.7	6.3	5.7	5.5	6.6	5.3	5.5	6.3	5.0	5.0
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	179	164	149	171	174	162	193	176	166	163	160	150
CV% of Tenacity	17.4	14.9	14.7	10.8	11.4	12.3	9.2	11.7	13.4	11.9	11.4	19.5
Force (N)	4.79	2.69	1.76	4.59	2.86	1.92	5.18	2.89	1.97	4.37	2.62	1.77
Elongation (%)	6.49	6.18	5.60	6.30	6.06	5.47	6.36	5.74	5.73	5.93	5.20	4.97
CV% of Elongation	8.9	12.0	10.3	11.9	8.8	8.8	9.2	8.5	9.2	10.4	11.0	15.4
Specific Work to Rupture (cm*N)	1.18	0.68	0.40	1.08	0.66	0.43	1.23	0.68	0.46	1.02	0.56	0.37
CV% of Specific Work to Rupture	20.4	19.6	18.6	15.8	15.4	16.7	13.3	14.7	16.7	15.0	15.6	25.2
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	17.3	20.9	22.9	17.5	20.1	22.0	16.7	19.8	22.5	18.8	22.2	24.0
Thick Places/1,000 yd	618	1340	1925	591	1175	1679	508	1041	1751	871	1673	2235
Thin Places/1,000 yd	10	206	402	44	129	257	18	123	380	88	322	558
Neps/1,000 yd	414	895	1468	287	725	1066	293	635	1061	249	607	976
YARN APPEARANCE INDEX	100	100	70	100	90	80	100	100	80	100	90	70

Fiber and Processing Tests of Leading Cotton Varieties - 1992 Cotton Crop - Yarn Properties for Combed, **RING SPUN YARN.**

	ACALA MAXXA					
	FAR WEST					
	California					
	San Joaquin Valley			San Joaquin Valley		
	22s	36s	50s	22s	36s	50s
OPENING & CARDING WASTE (%)	5.39	5.03	5.03	4.80	4.80	4.80
COMBING WASTE(%):	18.09	18.09	18.09	23.08	23.08	23.08
YARN SKEIN STRENGTH TEST:						
Yarn Number (Ne)	22.1	37.1	51.6	21.5	36.7	49.5
CV% of Yarn Number	1.8	2.6	2.1	1.7	1.6	2.0
Count-Strength-Product	3499	3266	3083	3251	2971	2865
CV% of CSP	5.4	3.1	3.5	3.9	4.6	4.3
Elongation (%)	6.0	5.4	5.4	6.4	5.0	5.1
SINGLE-YARN STRENGTH TEST:						
Tenacity (mN/tex)	198	186	173	192	172	170
CV% of Tenacity	11.4	10.7	11.7	10.0	10.8	10.8
Force (N)	5.33	3.06	2.05	5.14	2.82	2.00
Elongation (%)	6.50	5.86	5.84	6.39	5.45	5.42
CV% of Elongation	9.9	10.5	8.4	10.9	9.9	9.2
Specific Work to Rupture (cm*N)	1.33	0.70	0.48	1.25	0.61	0.45
CV% of Specific Work to Rupture	15.3	14.8	14.7	13.6	15.0	13.8
USTER YARN EVENNESS TEST:						
Non-Uniformity (CV%)	13.8	15.4	17.7	13.7	16.5	17.3
Thick Places/1,000 yd	103	210	448	88	335	501
Thin Places/1,000 yd	8	28	95	2	45	64
Neps/1,000 yd	29	131	199	17	131	134
YARN APPEARANCE INDEX	120	110	100	120	110	100

Fiber and Processing Tests of Leading Cotton Varieties - 1992 Cotton Crop - Fiber Properties.

	PIMA S-6	
	FAR WEST	
	Arizona	Texas
CLASSIFICATION		
Classer's Grade (Code)	3	3
HVI Staple (Code)	46	46
HVI - SPINLAB		
UHM (in)	1.34	1.33
Uniformity Index (%)	85.5	85.7
Strength (g/tex)	35.9	35.8
Elongation (%)	-	-
Micronaire (rdg)	3.9	4.6
Trash (% area)	0.38	0.28
Color Rd (%)	67.0	65.4
Color +b (units)	12.1	12.3
STELOMETER		
1/8" - Gage Strength (g/tex)*	35.5	37.2
Elongation (%)	6.9	7.7
SUTER-WEBB LENGTH ARRAY		
UQL (in)	1.53	1.50
Mean Length (in)	1.26	1.24
CV (%)	28.6	28.3
Short Fiber Content (%)	5.6	5.6
IIC/SHIRLEY FMT		
Fineness (mtex)	149.8	178.2
Maturity Ratio	0.967	1.014
S. A. NON-LINT CONTENT		
Visible Waste (%)	1.3	1.2
Total Waste (%)	2.1	2.5
NEPS OF RAW COTTON		
AFIS-N (neps/gram)	213	150
Raw Stock Neps (neps/100 sq. in.)	21	9
SUGAR CONTENT (%)	0.22	0.18

*Stelometer results adjusted to Pressley level.

Fiber and Processing Tests of Leading Cotton Varieties - 1992 Cotton Crop - Yarn Properties for Combed, **RING SPUN YARN.**

	PIMA S-6					
	FAR WEST					
	Arizona			Texas		
	22s	36s	50s	22s	36s	50s
OPENING & CARDING WASTE (%):	2.78	2.78	2.78	3.59	3.59	3.59
COMBING WASTE(%):	15.90	15.90	15.90	14.57	14.57	14.57
YARN SKEIN STRENGTH TEST:						
Yarn Number (Ne)	22.1	36.4	49.2	22.0	36.7	49.7
CV% of Yarn Number	1.5	2.6	3.1	1.5	1.3	2.0
Count-Strength-Product	4069	3833	3684	4099	3624	3364
CV% of CSP	3.5	3.3	3.6	3.8	3.8	3.7
Elongation (%)	7.0	6.3	6.1	7.4	6.4	6.0
SINGLE-YARN STRENGTH TEST:						
Tenacity (mN/tex)	236	230	218	225	206	205
CV% of Tenacity	9.1	11.6	11.1	8.8	10.5	18.2
Force (N)	6.34	3.77	2.58	6.04	3.38	2.43
Elongation (%)	7.57	6.50	6.17	7.51	6.14	6.40
CV% of Elongation	7.8	9.5	7.8	11.8	12.8	10.1
Specific Work to Rupture (cm*N)	1.80	0.96	0.63	1.73	0.85	0.63
CV% of Specific Work to Rupture	12.5	15.1	15.2	12.9	16.4	21.6
USTER YARN EVENNESS TEST:						
Non-Uniformity (CV%)	13.0	14.5	15.9	11.6	14.6	15.8
Thick Places/1,000 yd	40	146	257	19	116	187
Thin Places/1,000 yd	7	6	24	0	10	33
Neps/1,000 yd	13	89	132	7	48	78
YARN APPEARANCE INDEX	120	110	120	120	100	110

Standard Machine Settings and Specifications for Processing Specified Groups of Cotton.

Process	U.S.UPLAND	U.S. UPLAND (COMBED)	AMERICAN PIMA
CARD			
Standard Atmospheric Conditions			
Temperature (degrees F.)	75	75	75
Relative Humidity (pct.)	55	55	55
Sliver Delivered (gr./yd.)	60	60	60
Production Rate Per Hour (lbs.)	70	70	70
Doffer Speed (r.p.m.)	42	42	42
Cylinder Speed (r.p.m.)	365	365	365
Flat Speed (r.p.m.)	8.5	8.5	8.5
Licker-In Speed (in. / min.)	942	942	942
Settings:			
Feed Plate to Licker-In (in.)	.008	.008	.008
Mote Knife to Licker-In (in.)	.012	.012	.012
Licker-In Screen to Cylinder (in.)	.007	.007	.007
Back Cylinder Screen , Top (in.)	.023	.023	.023
Back Cylinder Screen , Bottom (in.)	.038	.038	.038
Front Cylinder Screen , Top (in.)	.120	.120	.120
Front Cylinder Screen , Bottom (in.)	.036	.036	.036
Flats, Back (in.)	.012	.012	.012
Flats, Mid (in.)	.010	.010	.010
Flats, Front (in.)	.009	.009	.009
Flats Stationary Back (3) (in.)	.010	.010	.010
Flats Stationary Front (3) (in.)	.010	.010	.010
Front Knife, Top (in.)	.010	.010	.010
Front Knife, Bottom (in.)	.010	.010	.010
Back Knife (in.)	.050	.050	.050
Top Front Plate to Cylinder (in.)	.040	.040	.040
Doffer to Cylinder (in.)	.004	.004	.004
Doffer to Stripper Roll (in.)	.005	.005	.005
Stripper to Crush Rolls (in.)	.008	.008	.008
Crusher Roll Pressure (lbs.)	112	112	112

Standard Machine Settings and Specifications for Processing Specified Groups of Cotton.

Process	U.S. Upland	U.S. Upland (Combed)	American Pima
Standard Atmospheric Conditions			
Temperature (Degrees F.)	75	75	75
Relative Humidity (Pct.)	55	55	55
Sliver Lapper (Combed Only)			
Sliver Fed, 20 Each. (Gr./Yd.)	-	42	42
Lap Delivered (Gr./Yd.)	-	808	808
Speed (Yd./Min.)	-	46	46
Comber (Model 52)			
Sliver Delivered (Gr./Yd.)	-	50	40
Production Per Hour (Lbs.)	-	22	22
Nominal Waste (Pct.)	-	16 to 17	16 to 17
Breaker Drawing Frame (3 over 3)			
Sliver Fed (6 Each) (Gr. /Yd.)	60	60	60
Sliver Delivered (Gr. /Yd.)	53	53	53
Roll Settings:			
First to Second (Mm.)	36	36	39
Second to Third (Mm.)	40	40	42
Speed (Meters / Min.)	350	350	250
Finisher Drawing Frame (3 over 4)			
Sliver Fed (8 Each) (Gr. /Yd.)	53	53	53
Sliver Delivered (Gr. /Yd.)	55	55	55
Roll Settings:			
First to Third (In.)	2-9/16	2-9/16	2-5/8
Third to Fourth (In.)	1-1/2	1-1/2	1-7/8
Speed (Feet / Min.)	509	509	509

Standard Machine Settings and Specifications for Processing Specified Groups of Cotton.

Process	U.S. Upland	U.S. Upland (Combed)	American Pima
Long Draft Roving (10 X 5, 1-Apron Type)			
Standard Atmospheric Conditions:			
Temperature (Degrees F.)	75	75	75
Relative Humidity (Pct.)	60	60	60
Sliver Fed (Gr. / Yd.)	55	55	55
Roving Delivered (Hank)	0.80, 1.00, 1.25	0.80, 1.00, 1.25	0.80, 1.00, 1.25
Roll Settings:			
First to Second (In.)	2-3/32	2-3/32	2-1/4
Second to Third (In.)	1-1/2	1-1/2	2
Spindle Speed (R.P.M.)	900	900	900
Long Draft Spinning (2-Apron Type)			
Standard Atmospheric Conditions:			
Temperature (Degrees F.)	75	75	75
Relative Humidity (Pct.)	65	65	65
Twist Multiplier (No.)	4.00	4.00	4.00
Carded Yarns (No.)	22, 36, 50	22, 36, 50	-
Combed Yarns (No.)	-	22, 36, 50	22, 36, 50
Roll Settings:			
First to Second (In.)	1-11/16	1-11/16	1-11/16
Second to Third (In.)	1-13/16	1-13/16	2
Spindle Speed (R.P.M.)	11,000	11,000	11,000
Open-End Spinning			
Standard Atmospheric Conditions:			
Temperature (Degrees F.)	75	75	-
Relative Humidity (Pct.)	65	65	-
Sliver Fed (Gr. / Yd.)	55	55	-
Twist Multiplier (No.)	4.80	4.80	-
Carded Yarns (No.)	10, 22, 30	10, 22, 30	-
Rotor Speed (R.P.M)	90,000	90,000	-
Rotor Diameter (Mm.)	T33	T33	-
Opening Roll Speed (R.P.M)	7,500	7,500	-

OUTLINE OF MECHANICAL PROCESSES